

Effects Of Various Regulatory Options For Low Power Availability

Original spreadsheets could not be filed on the FCC's ECFS site in working form—they are available at <http://prometheusradio.org/content/view/633/1/>

Description of Formulas used for columns L through W

The following documentation explains how the spreadsheets portray comparisons among three proposals of limitations on LPFM stations:

- The FCC's 10 cap on applications
- 10 cap on ownership in the top 303 markets
- 10 cap on how many times a station can be repeated in the top 303 markets.

There is an EXCEL workbook for each of 8 markets: Phoenix, AZ; Akron, OH; Las Vegas, NV; Reno, NV; Lincoln, NE; Wenatchee, WA; Portland, OR; Orlando, FL. There are 4 sheets in each workbook. Sheet 1 portrays each applicant in different applicant groups and shows the survival rate of each when put up against the criteria for cutting the applications. Sheet 2 shows each applicant and the corresponding number of received applications. Sheet 3 shows each applicant with the corresponding number of applications so far granted. Sheet 4 shows each station's call letters with the corresponding number of applications that intend to repeat that station.

The following are explanations of formulas in significant columns on Sheet 1:

Column L- #rcvd apps

This represents the number of applications submitted to the FCC by the particular applicant group. It is taken directly from sheet 2.

Column M- # owned by applicant

This is the number owned by the applicant. It will be used when looking at how Prometheus's 10-cap proposal will affect current owners. This number is taken directly from sheet 3 using the vlookup function.

Column N - # of times call letters repeated

We also propose a cap on how many translators can repeat a main station in the top 303 markets. The number in column N matches the applicant's designated repeater station with the number of times that station will be repeated. This number was taken directly from sheet 4, using the vlookup function, matching together column k ("origination") with the corresponding call letters on sheet 4. THIS NUMBER IS WILL BE LARGER THAN THE ACTUAL NUMBER OF TIMES A CERTAIN STATION IS ACTUALLY REPEATED BECAUSE IS CONSIDERS BOTH RECVD AND GRANTED APPLICATIONS. Since the FCC is limiting applications based on owner and not on the originating station, it is impossible to produce an accurate number in this field at this time. As such, it represents a worst case scenario in terms of limiting translator status.

Column O – Probability of application retention

This displays the chance of each applicant in surviving the FCC's cap on applications. It is formulated through an IF formula to show what the chances of an application being retained is if there are more than 10 applications put in by that particular group. For example, (IF L81>10, 10/L81, 1) means that if the number of applications in cell L81 exceeds 10, then 10 divided by that number is the chance of any of them being retained. If it does not exceed 10, the number in that cell will be "1," or a 100 percent chance of being retained. For example, if there are 12 applications then $10/12 = .833$. So there is an 83% chance of being retained after the FCC limit.

Column P – Probability of voluntary application dismissal

This displays the chance of the application being dismissed as a result of the FCC ten application limit. Taking the inverse of the retention chance (1-O) portrays the chance of dismissal. In column P, the last number at the end of every group of applicants shows the overall chance of dismissal among those applications. It is shown through the multiplication formula, i.e. =PRODUCT (A1:A8), and highlighted in green.

Column Q – Application retention 300 owner

Using the same "IF" formula as Column O, this shows the chance of retention of the number of applications in the 300 owner cap. It uses the numbers from column M. For example, the formula =IF(M39>10, 10/M39, 1)

shows that if the number of stations owned in the 300 market exceeds 10, then 10 divided by that number will portray the chance of any of them being retained after the proposed ownership limit. If it does not exceed 10, the number will be 1, or a 100 percent chance of retention.

Column R – Application retention 300rep

Also uses the same “IF” formula as columns O and Q. Portrays chance of retention with the 10 cap on the number of times a single station can be repeated in the top 303 markets. This uses the numbers from column N. For example, the formula =IF(N39>10,10/N39,1) shows that if the number of times a station is repeated through translators in the 300 market exceeds 10, then 10 divided by that number will provide the chance that the applications will be retained after this proposed criteria. If it does not exceed 10, the answer will be 1, or a 100 percent chance of retention.

Column S – Cumulative probability of application dismissal

The cumulative effect of all these limitations was added in order to establish whether as a result of adopting Prometheus' recommendations, a LPFM would be able to displace a translator that would be established on that frequency. For instance, if the FCC's limit disqualifies 4 out of 5 applications in a certain MX group, that frequency will remain unavailable for future LPFM stations. The formula used is 1-the column O, multiplied by

the number above it in column S. This gives the overall chance of dismissal from the FCC limit for the entire MX group. Here, the entry for that last application within a certain MX group (highlighted in pink) is the number that indicates the overall chance that this frequency will be available for LPFM.

Column T – fccsurvive300own

If the applications survived the FCC limit this shows if they will survive the cap on ownership in the 300 market. The formula $=(\$O39/\$O\$44)*Q39$ uses the chance of FCC cut survival divided by the overall chance of survival for that applicant group, then multiplies it by the chance of surviving the ownership cut. In doing this, the formula gives less weight to applications that have little chance of surviving the initial FCC application limit, thus revealing the overall chance (highlighted in pink) that at least one applicant will survive within an MX group, therefore leaving a frequency for LPFM unavailable.

Column U – fccsurvive repetition

If the applications are retained after the FCC cap, this shows if they will survive the cap on how many times a station can be repeated in the top 300 markets. The formula $=(\$O39/\$O\$44)*R39$ is used showing the chance of surviving the FCC limit (O39) divided by the overall chance for that applicant

group (O44), then multiplies it by the chance of surviving the repeater cut (R39). As with column T, this formula gives less weight to applications that have little chance of surviving the initial FCC application limit, thus revealing the overall chance (highlighted in pink) that at least one applicant will survive within an MX group, therefore leaving a frequency for LPFM unavailable.

Column V – Probability of translator retention with LPFM priority recommendation

This column portrays the probability of the station's applications surviving both forms of criteria - the cap on ownership and the cap on repetition. The formula $=Q39*R39*(O39/O44)$ displays this. It takes the product of the chance of surviving the ownership cut (Q39) and the repeater cut (R39). Then it divides the chance of the application surviving the FCC (O39) limit by the overall chance of the applicant group being retained after the FCC limit (O44). It then multiplies those two numbers together.

Column W – Probability translator could be secondary with LPFM priority recommendation

This, in comparison to Column V, portrays the chance that the applications will be made secondary if both the ownership cut and the repetition limit are implemented. This was done by taking the inverse of the

“ Probability of translator retention with LPFM priority recommendation”
from column V (1-V39). At the bottom of the each applicant group the
formula =PRODUCT (W39:W43) is used to formulate the product of all of the
numbers.